

## VII. PROPOSED RESTORATION TRACTS

Colusa Subreach Planning includes the development of habitat restoration plans for eight tracts, which are owned by a public agency, owned by TNC or optioned to TNC at this time. They include a total of 413 acres that have been converted to agriculture in the past. The restoration plans will identify the restoration opportunities at each tract and the site-specific techniques to be employed to restore riparian habitats. The plans will identify the species to be planted and the arrangement of planting at each site. They will be based on extensive baseline analysis, information generated through other CSP studies and input from the public engagement process. They will be of a sufficient detail that funding applications can be pursued for each tract in the future. No other private property will be planned for restoration.

Through the CSP public engagement process the restoration plans will be publicly discussed and reviewed. Initial restoration recommendations will be developed as part of the Tract-Specific Baseline Assessment. Meetings will be held with adjoining landowners and restoration recommendations will be reviewed by the Advisory Workgroup. Draft plans will undergo hydraulic analysis to determine the impact on the flood control system and any appropriate adjustments will be made to ensure that no substantive impacts to the integrity of the flood control system result from the proposed restoration. Actual restoration of these tracts will be dependant on the availability of funding for the restoration in the future.

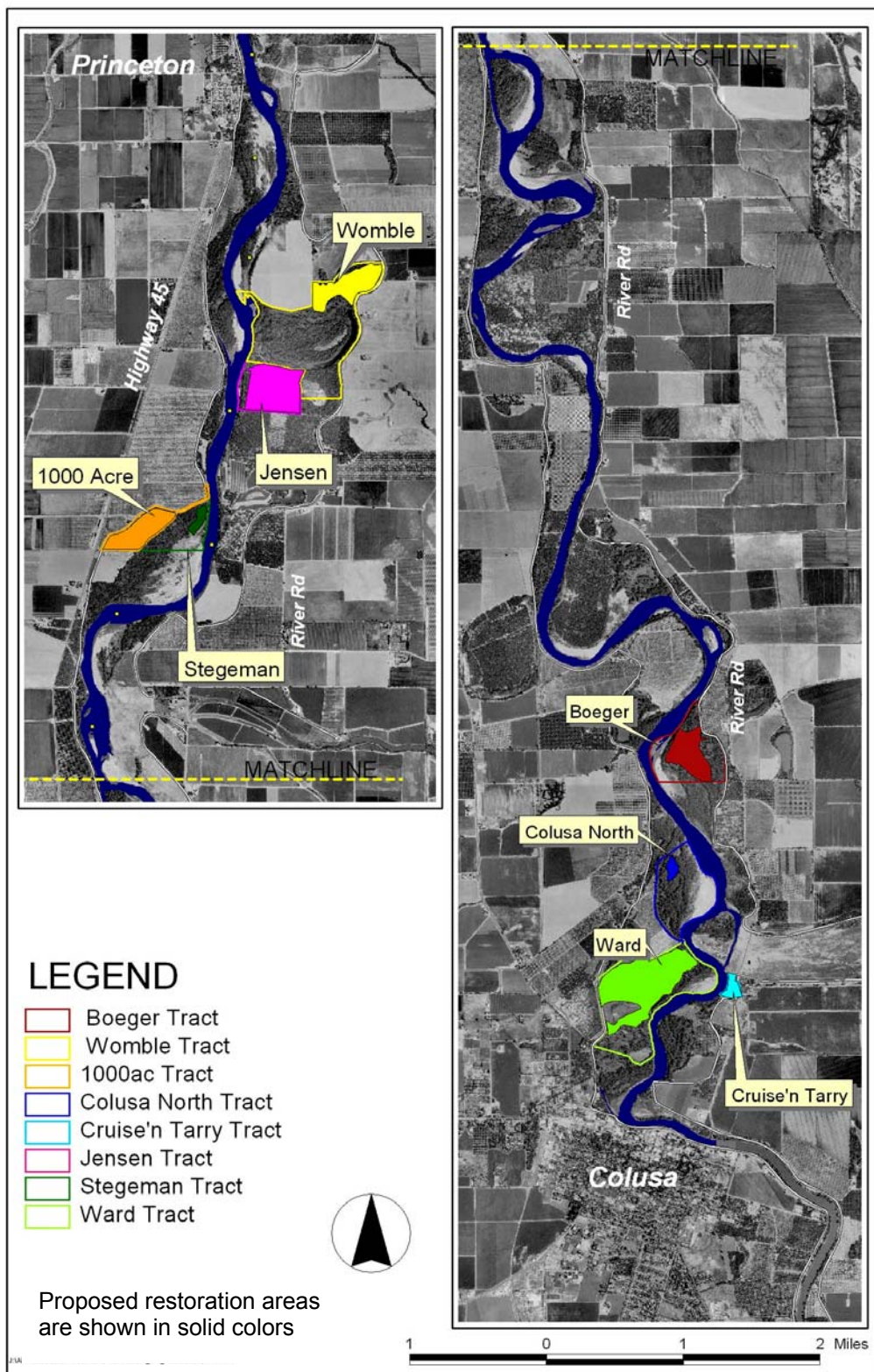
### A. Baseline Assessments

Baseline Assessments will be prepared for the eight restoration tracts in order to characterize each site and provide the necessary technical basis for the design of restoration plans. The eight tracts are described in Table 9 below and depicted in Figure 17. Each tract contains an area that is a potential candidate for restoration of native habitat. The Baseline Assessments will be prepared through two subcontracts: the Tract-Specific Baseline Assessment and the Cultural Resources Assessment.

**Table 9. Proposed Restoration Tracts**

Tract	Total Area	Restoration Area	River Mile	Existing Land Use	Owner
Womble	307	58	RM 162L	Agriculture-annual row crops	Under option
Jensen	105	83	RM 161L	Agriculture-walnut orchard	TNC
1000-acre Ranch	60	50	RM 160R	Agriculture-prune orchard	TNC
Stegeman	69	10	RM 160R	Fallow-former orchard	State / DFG
Boeger	129	55	RM 148L	Agriculture-annual row crops	TNC
Colusa-North	118	5	RM 147R	Fallow-former orchard	State / DFG
Ward	238	143	RM 145.5R	Agriculture-annual row crops	TNC
Cruise n'Tarry	10	9	RM 145.5L	Fallow-former orchard/marina	State/ DWR
Total Areas	1036	413			

*Source: The Nature Conservancy*



**Figure 17. Proposed Habitat Restoration Tracts**

Source: The Nature Conservancy

**Tract-Specific Baseline Assessment** – Researchers from the Department of Biology at CSU Chico will prepare the Tract-Specific Baseline Assessment under subcontract to TNC. Work on this subcontract was initiated in the summer of 2004 because of the need to begin this work early and have it completed in time to support the subsequent phases of CSP. This effort will result in two components, the Tract-Specific Baseline Data component and the Small Mammals component.

The Tract-Specific Baseline Data component will include research and analysis of existing vegetation, soils, inundation frequency and wildlife in order to develop the basic scientific information that is required for the planning of habitat restoration. It will also include description of adjacent land use patterns. This information will permit a determination as to whether a tract is likely to recruit adequate natural vegetation to restore the habitat, without a horticultural planting program. If planting is judged to be necessary, preliminary restoration planting recommendations will be developed. Such restoration recommendations will include specifications as to the appropriate mix and distribution of plant species for each site. The planting design will be developed to replicate the vegetation that would cover the tract under natural conditions. A separate report will be provided for each of the eight restoration sites, to facilitate future funding proposals. These reports are scheduled to be completed in the late summer of 2005.

The Small Mammals component will characterize the differences in distribution and abundance of small mammals (ground squirrels, pocket gophers, voles, etc.), in different habitat types. This will help to evaluate changes that may occur with habitat restoration. Sampling will include small animal trapping and analysis of owl pellets at established nest boxes. Data collection will occur during the dry and wet seasons of 2004-5 and 2005-6. A single report is scheduled to be completed by November of 2006, to convey the findings of this component.

**Cultural Resources Assessment** – The Archaeological Research Program at CSU Chico performed the Cultural Resources Assessment under subcontract to TNC. The intent of the Assessment was to document any significant cultural resources on the restoration tracts and to ensure that any subsequent restoration plans are designed so that they do not impact such cultural resources. The Assessment built upon the *Cultural Resources Overview and Management Plan, Sacramento River Conservation Area, Tehama, Butte, Glenn and Colusa Counties, California* that was prepared in 2003 as part of Chico Landing Subreach Planning.

The Assessment included review of existing archaeological records for the entire area of the restoration tracts, field survey of the restoration areas of these tracts and preparation of a report summarizing the findings of the study. The report also specified appropriate protections for any identified cultural resources. The Ward Tract was included in the *Cultural Resources Overview and Management Plan*, as referenced above, in 2003. Cultural resources information regarding the Ward Tract was, however, updated and incorporated in the Cultural Resources Assessment Report.

The report was completed in January of 2005 and presented to the Advisory Workgroup for review. It is available at the CSP website and at local libraries. One potentially significant archaeological site was identified and mitigation measures to protect the site were recommended. These measures will be incorporated in future plans for the subject tract. The specific location of these potentially important cultural resources was kept confidential to protect the resources.

## B. Proposed Restoration Tracts

Eight tracts were chosen for restoration evaluation and planning within the subreach. Each site appears to have the potential to support native vegetation that would provide high value habitat for wildlife. As previously noted, the eight tracts are owned (or are planned to be owned in the case of the Womble Tract) by the public or by TNC. They are all located adjoining or in close proximity to the river and are inside of the levees. On two of the tracts, the agricultural use has been abandoned. The remaining six tracts retain some agricultural use.

**Womble Tract** is an approximate 307-acre site located about one mile south of Princeton, on the east side of the river. Figure 18 depicts the site on a 1999 aerial photo. The majority of the tract is in riparian habitat, which includes a large oxbow lake. The oxbow lake was formed after the river channel was cut across Boggs Bend about 1930. About 51 acres of the northeast corner of the tract has been cleared and is used for annual row crops. The row crop area is inundated in most years, and the portion of the area adjacent to the levee, ponds water annually because it is lower than the property to the west. Pounded water, in this area, has commonly been pumped out in the late spring or early summer to permit planting. The tract is under option to TNC, and the trustee has given permission to include the land in the Baseline Assessment. The Womble Tract adjoins the Jensen Tract to the southwest. The site has access from River Road on the east.

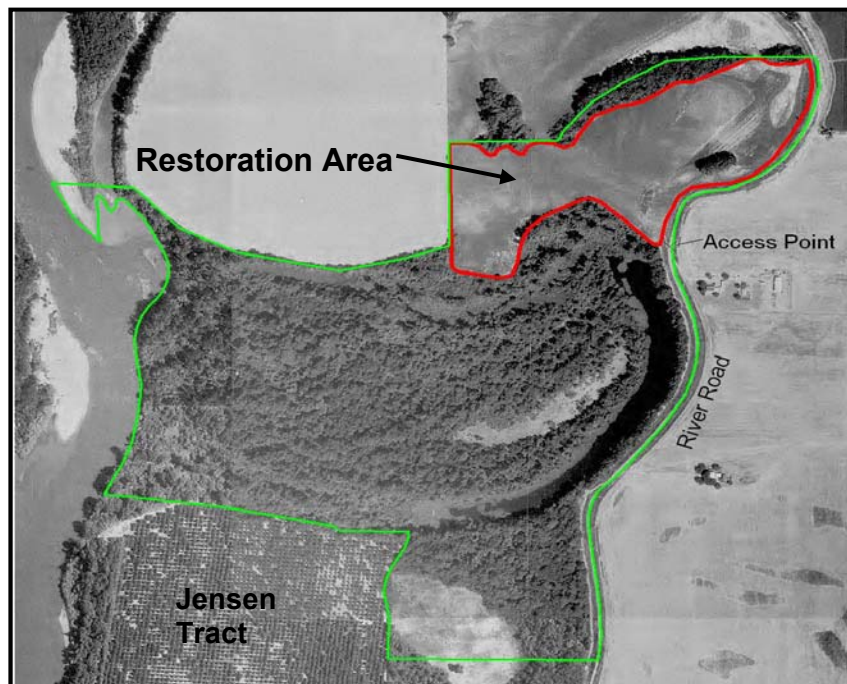


Figure 18. The Womble Tract

The existing row crop area will be evaluated for potential conversion to riparian habitat. This area adjoins the levee on its east boundary. It abuts row crops and riparian vegetation to the north and row crops the west. Irrigation water is pumped from the onsite oxbow lake. Restoration of the tract would increase the local area of



contiguous riparian vegetation from approximately 260 to 270 acres, or 394 acres, if the Jensen Tract is also restored.

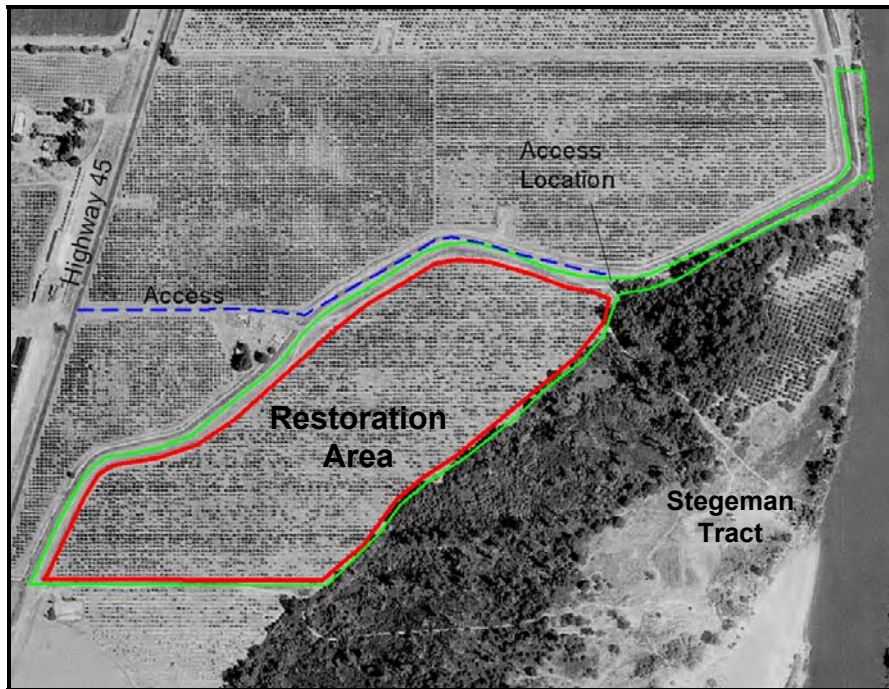
**Jensen Tract** is an approximate 105-acre site located about 1.75 miles south of Princeton on the east side of the river. Figure 19 depicts the site on a 1999 aerial photo. About 83 acres of the tract is a walnut orchard and 22 acres are in riparian vegetation. The tract floods approximately every one to two years. The tract was purchased by TNC in 2000. The Jensen Tract adjoins the river on the west, and riparian portions of the Womble Tract on the north and along the north half of the east boundary. Access to the site is across a private easement from River Road.



**Figure 19. The Jensen Tract**

The existing orchard area will be evaluated for potential conversion to riparian habitat. The orchard area abuts onsite riparian area to the west. It abuts a walnut orchard, with a single owner on the south; and a riparian area, with a single owner along the south half of the east boundary. The orchard area is leveled and irrigation is supplied from an onsite well. Restoration of the tract would increase the local area of contiguous riparian vegetation, from approximately 260 to 343 acres, or 394 acres, if the Womble Tract is also restored.

**1000-Acre Ranch Tract** is an approximate 60-acre site located on the west side of the river about 2.75 miles south of Princeton. Figure 20 depicts the site in on a 1999 aerial photo. Fifty acres of the tract is an older prune orchard and the remaining ten acres are covered by the levee and the adjacent access area, which abuts the site to the northwest. The tract is estimated to be inundated about every two to four years. The tract was purchased by TNC in 2003. The 1000-Acre Ranch Tract adjoins the Stegeman Tract on the east. Access to the site is across a private easement from Highway 45.



**Figure 20. The 1000-Acre Ranch Tract**

The existing orchard area will be reviewed for potential conversion to riparian habitat. The tract area abuts a young walnut orchard to the south, which is under the same ownership as the adjoining riparian habitat to the east. The restoration area has been leveled and irrigation is supplied from an offsite well. Restoration of the tract would increase the local area of contiguous riparian vegetation, from approximately 240 to 290 acres, or 300 acres if the Stegeman Tract is also restored.

**Stegeman Tract** is an approximate 69-acre site located, on the west side of the river, about 2.85 miles south of Princeton. Figure 21 depicts the site on a 1999 aerial photo. About 59 acres of the tract is in riparian habitat. Approximately ten acres is occupied by a walnut orchard that has been abandoned for over 14 years. The tract is flooded about every one to four years depending on elevation. It was purchased by the State of California in 1990 and it is the northerly parcel of the Stegeman Unit of DFG's Sacramento River Wildlife Area. The tract adjoins the 1000-Acre Ranch Tract on the west. Access to the site is across a private easement from Highway 45.

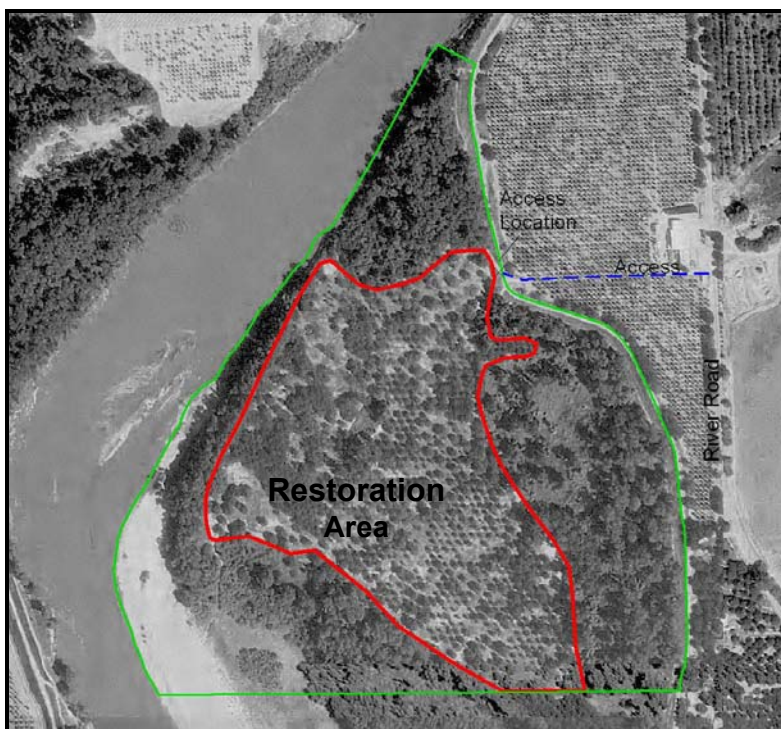
The abandoned orchard area will be evaluated for potential conversion to riparian habitat. The abandoned orchard area is entirely surrounded by onsite riparian habitat but the walnut trees have effectively precluded natural conversion to riparian over the last 14+ years. The orchard area is generally level and no irrigation infrastructure exists. Restoration of the tract would increase the local area of contiguous riparian vegetation from approximately 240 to 250 acres, or 300 acres if the 1000-Acre Ranch Tract is also restored.





**Figure 21. The Stegeman Tract**

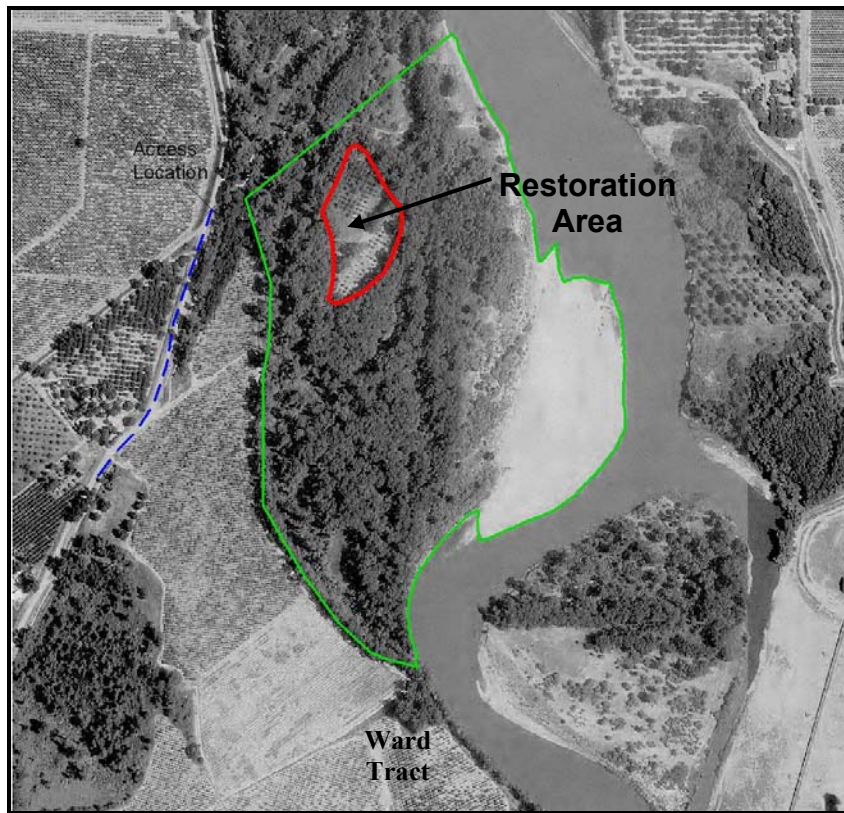
**Boeger Tract** is an approximate 129-acre site located about 2.5 miles north of Colusa on the east side of the river. Figure 22 depicts the site on a 1999 aerial photo. About 74 acres are in riparian habitat and 55 acres are now in row crops. The tract is flooded about every one to four years, depending on elevation, and it was purchased by TNC in 2002. The Boeger Tract adjoins the river, on the west and north. It abuts the levee on the east and private riparian habitat on the south. Access to the site is across a private easement from River Road.



**Figure 22. The Boeger Tract**

The existing row crop area will be evaluated for potential conversion to riparian habitat. The row crop area is surrounded by onsite riparian, the adjoining private riparian property to the south and the levee on the east. The row crop area is leveled, and irrigation is supplied from an onsite well. Restoration of the tract would increase the local area of contiguous riparian vegetation, from approximately 140 to 195 acres.

**Colusa-North Tract** is an approximate 118-acre site located on the west side of the river, about 2 miles north of Colusa. Figure 23 depicts the site on a 1999 aerial photo. About 113 acres of the tract is in riparian habitat. Approximately five acres is occupied by a walnut orchard that has been abandoned for over 11 years. The tract floods about every one to two years, depending on elevation. It was purchased by the State of California in 1994 and comprises the northerly subunit of the Colusa Unit of DFG's Sacramento River Wildlife Area. The tract is north of the Ward Tract, with an intervening private property, where the owner has indicated a desire to restore natural habitat. Access to the site is across private easements.



**Figure 23. The Colusa-North Tract**

The abandoned orchard area will be evaluated for potential conversion to riparian habitat. The abandoned orchard area is entirely surrounded by onsite riparian habitat, but the walnuts have effectively precluded natural conversion to riparian habitat over the last 10+ years. The orchard area is generally level and no irrigation infrastructure exists. Restoration of the tract would increase the local area of



contiguous riparian vegetation, from approximately 375 to 380 acres, or 523 acres, if the Ward Tract is also restored.

**Ward Tract** –The Ward Tract is an approximate 238-acre site located about one mile north of Colusa, on the west side of the river. Figure 24 depicts the site on a 1999 aerial photo. About 95 acres of the tract are in riparian habitat and approximately 143 acres are in row crops. An orchard was removed subsequent to the aerial photo. The tract is flooded about every one to four years, depending on elevation. It was purchased by TNC in 2001. The Ward Tract adjoins the river on the east, and the riparian portion of the Colusa-Sacramento River State Recreation Area on the south. It abuts the levee on the west and privately-owned riparian and row crop land on the north. Access to the site is across a private easement.

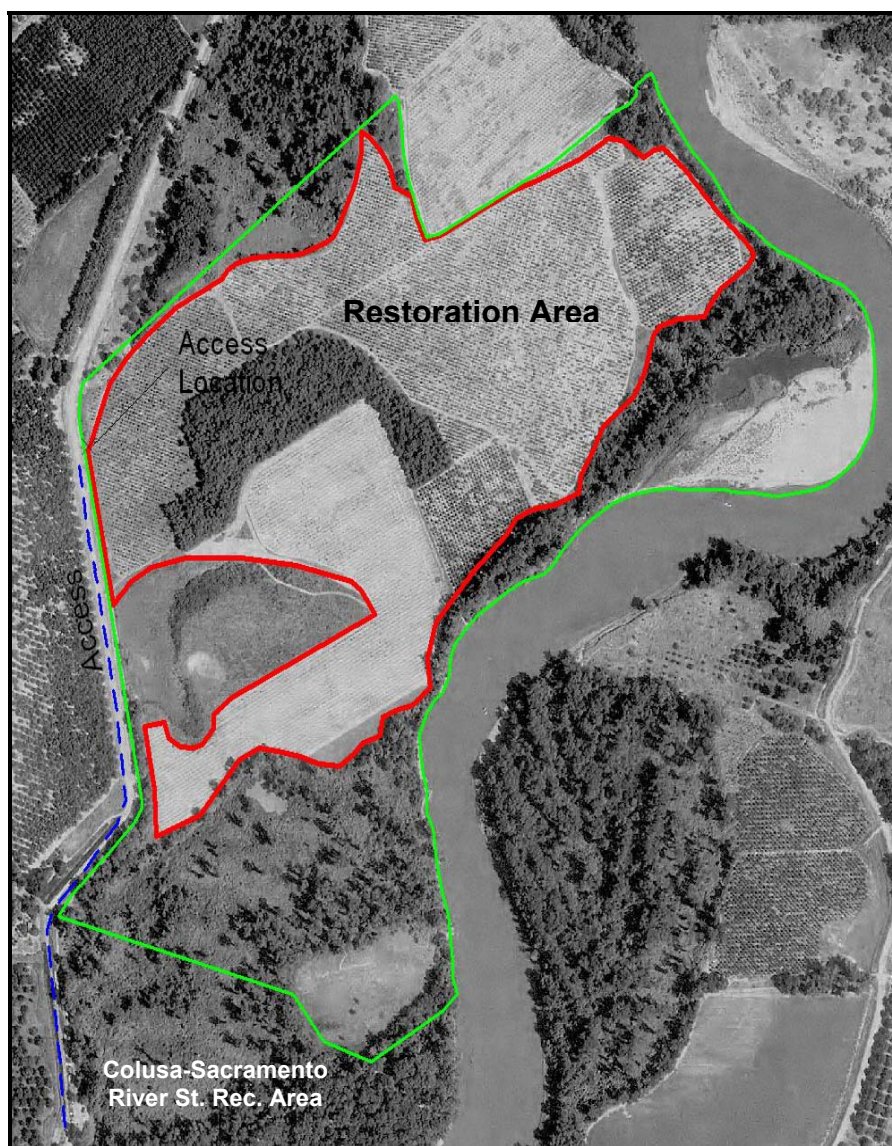
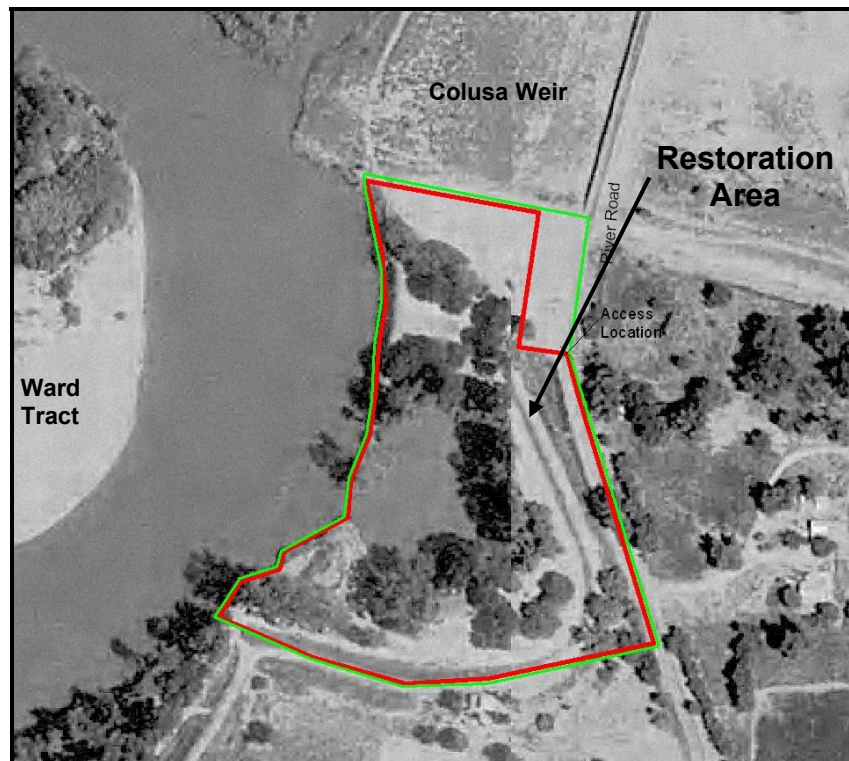


Figure 24. The Ward Tract

The row crop area will be evaluated for conversion to riparian habitat. The row crop area is surrounded, by onsite riparian, the levee and the river, on three sides. The owner of the adjoining row crop land, to the north, has indicated a desire to restore the adjoining area to habitat. The area has been leveled and irrigation is supplied from the river. Restoration of the tract would increase the local area of contiguous riparian habitat from approximately 375 to 518 acres, or 523 acres, if the Colusa-North Tract is also restored.

**Cruise n'Tarry Tract** - The Cruise n'Tarry Tract is an approximate 10 acre site located about one mile north of Colusa, on the east side of the river. Figure 25 depicts the site in an aerial photo. It is the site of a former marina and it was leased to Colusa County in the past. The tract is a mixture of open area, abandoned orchard and riparian habitat. It is flooded about every one to four years, depending on elevation and it was purchased by the State in 1989. The tract adjoins the river on the west, the Colusa Weir on the north and the levee on the east and south. The Ward Tract is located across the River to the west. Access to the site is from River Road. The Ward Tract is located across the River to the west. Access to the site is from River Road.



**Figure 25. The Cruise n'Tarry Tract**

Nine acres will be evaluated for potential conversion to riparian habitat and one acre will continue to be reserved for short-term storage materials cleared from the adjoining Colusa weir. The tract has a permanent pool in the center that is approximately the level of the river surface. A residence is located on the adjacent property, to the south, across the levee. Restoration of the tract could increase the local area of contiguous riparian vegetation from approximately 10 to 19 acres.